

CLAIMS

1. Cart to facilitate collection, storage and distribution of folding warning lines, with the folding warning lines including rigid members and a flaccid member, with the cart comprising, in combination:

a framework having a first side and a second side, with each of the first side and the second side terminating in a top, a bottom, a front, and a back, with a storage area for the folding warning lines located between the first side and the second side, with the storage area being accessible between the fronts of the first side and the second side, with the framework having a top member extending laterally between the tops of the first side and the second side, with the framework having a bottom member extending laterally between the bottoms of the first and second sides, with the bottom member defining a plurality of slots, with the top member defining a plurality of notches, with the plurality of slots and the plurality of notches adapted and cooperating to receive and retain the rigid members of the folding warning lines to facilitate orderly storage of the rigid members of the folding warning line;

a holder on the framework, with the holder being adapted to receive, store and release the flaccid member of the folding warning lines without tangling;

an engagement device on the framework to accommodate engagement by a crane to transport the framework and the folding warning lines stored thereon to a work surface;

a rolling support rotatably mounted to the framework, with the rolling support providing mobility on the work surface;

a handlebar on the framework, with the handlebar enabling the framework to be tilted rotationally about the rolling support and pushed in a movement direction, with

the fronts of the first side and the second side located ahead of the backs of the first side and the second side in the movement direction;

a stabilizer, with the stabilizer engaging the work surface when the framework is in an immobile position, with the stabilizer cooperating with the rolling support to support the framework in the immobile position, wherein when the framework is in the immobile position the first side and the second side of the framework are inclined toward the backs at a retention angle, wherein when the first and second sides are at the retention angle, the rigid members of the folding warning lines are gravitationally retained in the storage area, with the plurality of slots adapted to constrain lower ends of the rigid members in frontward, backward, sideward and downward directions, with the frontward direction being towards the fronts from the backs the first and second sides, with the backward direction being toward the backs from the fronts of the first and second sides, with the sideward direction being toward the first side from the second side or toward the second side from the first side, with the downward direction being toward the bottom member from the top member of the framework, with the plurality of notches adapted to constrain upper ends of the rigid members in the backward and sideward directions, with the retention angle gravitationally constraining the upper ends of the rigid members from movement in the frontward direction when the framework is in the immobile position; and

a retainer adjustable between a retaining position and an open position, with the retainer constraining the rigid members of the folding warning lines from movement in the frontward direction when the retainer is in the retaining position, with the retainer in the open position leaving the upper ends of the rigid members unrestrained in the frontward direction to facilitate loading and unloading of the folding warning lines.

2. The cart of claim 1 with the first and second sides being parallel, equal in size, and symmetrical about the storage area, with the fronts of the first and second sides terminating in a front flange that extends between the top and the bottom and breaks at a right angle toward the storage area, with the backs of the first and second sides terminating in a back flange that is parallel and spaced from the front flange, with the back flange of the first and second sides extending between the top and the bottom and breaking at a right angle away from the storage area.

3. The cart of claim 1 with the engagement device being a circular cutout on each of the first and second sides proximate the tops, with the circular cutout adapted to accommodate connection by a crane.

4. The cart of claim 1 with the retention angle being in the order of 20 degrees from a normal to the work surface.

5. The cart of claim 1 with the rolling support comprising wheels rotatably mounted to opposite ends of an axle, with the axle being parallel and spaced from the bottom member and having a length, with the axle mounted on a first bar and a second bar, with the wheels being external to the first bar and the second bar along the length of the axle, with the first bar being attached to the first side intermediate the bottom member and the top member and proximate the bottom of the first side, and the second bar being attached to the second side intermediate the bottom member and the top member and proximate the bottom of the second side.

6. The cart of claim 1 with the retainer in the retaining position cooperating with a protruding part of the rigid members to limit movement of the rigid members in an upward direction, with the upward direction being toward the top member from the bottom member of the framework.

7. The cart of claim 6 with the retainer formed by a bar pivotably attached to the front of the first side about an axis intermediate and parallel to the top and bottom of the first side and perpendicular to the top member, with the bar being removably and replaceably attached to the front of the second side intermediate the top and the bottom, with the bar being lockable to the front of the second side, with the retainer being in the retaining position when the bar is locked to the second side, with pivoting of the bar moving the retainer to an open position, with the bar in the open position being generally parallel and adjacent the first side to provide access to the storage area to facilitate loading and unloading of the folding warning lines.

8. The cart of claim 7 with the bar being a U shaped channel lockable to the front of the second side with a clevis and pin, with a back of the U shaped channel being adjacent the fronts of the first and second sides in the retaining position.

9. The cart of claim 1 with the top member having a lateral length and a first end and a second end along the lateral length, with the top member including a top plate, a back plate and a bottom plate, with the top plate and the bottom plate being parallel and the back plate being perpendicular to the top plate and the bottom plate, with the top plate, the back plate, and the bottom plate cooperating to define C shaped cross sections of the top member, with the top plate at the first end attached to the top of the first side, with the top plate at the second end attached to the top of the second side, with the back plate at the first end attached to the back of the first side, with the back plate at the second end attached to the back of the second side.

10. The cart of claim 9 with the holder comprising a spool having an axle, with the axle having an interior end and an opposite end, with the interior end of the axle rotatably mounted to the back plate of the top member intermediate the first end and the second end, with the axle being generally perpendicular to the back plate, with

the spool having a first flange and a second flange, with the first flange being on the interior end and the second flange being on the opposite end of the axle to contain the flaccid member of the folding warning lines intermediate the first and second flanges, with a grip attached to the second flange exterior to the spool to facilitate turning of the spool, with a ring attached to the second flange exterior to the spool and adapted to affix the flaccid member of the folding warning lines to the spool to facilitate tangle free winding onto the spool.

11. The cart of claim 9 with the handlebar comprising a first handle attached to the back plate of the top member proximate the first end and a second handle attached to the back plate of the top member proximate the second end, with the first handle and the second handle inclining in an upward direction exterior to the framework.

12. The cart of claim 11 with the bottom member having a length and a first edge and a second edge along the length, with the bottom member having a top portion, a back portion, and a bottom portion, with the top portion and the bottom portion being perpendicular to the back portion and parallel to the top plate of the top member, with the top portion cooperating with the back portion and the bottom portion to form C shaped cross sections of the bottom member, with the bottom portion at the first edge attached to the bottom of the first side and the bottom portion at the second edge attached to the bottom of the second side, with the back portion at the first edge attached to the back of the first side and the back portion at the second edge attached to the back of the second side, with the bottom member further including a front portion, with the front portion extending along the length and attached to the bottom portion of the bottom member, with the front portion protruding toward the fronts of the first and

second sides, with the front portion being upwardly inclined from the bottom portion, with the bottom member terminating at a front edge defined by the front portion.

13. The cart of claim 12 with the stabilizer having an inverted U shape, with the inverted U shape including a spine with opposite ends and a leg on each end of the spine, with the legs being attached to the front portion of the bottom member of the framework proximate the first edge and the second edge of the bottom member, with the stabilizer being attached at a downwardly inclining angle and extending exterior the framework, with the spine engaging the work surface when the framework is in the immobile position.

14. The cart of claim 12 with the plurality of notches being defined in the top plate of the top member and with the plurality of slots being defined in the bottom portion of the bottom member, with notches of the plurality of notches being laterally spaced according to lateral spacing of slots of the plurality of slots to facilitate order and ease of loading and unloading the rigid members of the folding warning lines.

15. The cart of claim 14 with the notches in the plurality of notches numbering eight and the slots in the plurality of slots numbering eight.

16. The cart of claim 15 with the framework being metal.

17. The cart of claim 9 with the bottom member having a length and a first edge and a second edge along the length, with the bottom member having a top portion, a back portion, and a bottom portion, with the top portion and the bottom portion being perpendicular to the back portion and parallel to the top plate of the top member, with the top portion cooperating with the back portion and the bottom portion to form C shaped cross sections of the bottom member, with the bottom portion at the first edge attached to the bottom of the first side and the bottom portion at the second edge attached to the bottom of the second side, with the back portion at the first edge

attached to the back of the first side and the back portion at the second edge attached to the back of the second side, with the bottom member further including a front portion, with the front portion extending along the length and attached to the bottom portion of the bottom member, with the front portion protruding toward the fronts of the first and second sides, with the front portion being upwardly inclined from the bottom portion, with the bottom member terminating at a front edge defined by the front portion.

18. The cart of claim 17 with the plurality of notches being defined in the top plate of the top member and with the plurality of slots being defined in the bottom portion of the bottom member, with notches of the plurality of notches being laterally spaced according to lateral spacing of slots of the plurality of slots to facilitate order and ease of loading and unloading the rigid members of the folding warning lines.

19. The cart of claim 18 with the first and second sides being parallel, equal in size, and symmetrical about the storage area, with the fronts of the first and second sides terminating in a front flange that extends between the top and the bottom and breaks at a right angle toward the storage area, with the backs of the first and second sides terminating in a back flange that is parallel and spaced from the front flange, with the back flange of the first and second sides extending between the top and the bottom and breaking at a right angle away from the storage area, with the engagement device being a circular cutout on each of the first and second sides proximate the tops, with the circular cutout adapted to accommodate connection by a crane, with the retention angle being in the order of 20 degrees from a normal to the work surface, and with the rolling support comprising wheels rotatably mounted to opposite ends of an axle, with the axle being parallel and spaced from the bottom member and having a length, with the axle mounted on a first bar and a second bar, with the wheels being external to the first bar and the second bar along the length of the axle, with the first bar being

attached to the first side intermediate the bottom member and the top member and proximate the bottom of the first side, and the second bar being attached to the second side intermediate the bottom member and the top member and proximate the bottom of the second side.

20. The cart of claim 19 with the holder comprising a spool having an axle, with the axle having an interior end and an opposite end, with the interior end of the axle rotatably mounted to the back plate of the top member intermediate the first end and the second end, with the axle being generally perpendicular to the back plate, with the spool having a first flange and a second flange, with the first flange being on the interior end and the second flange being on the opposite end of the axle to contain the flaccid member of the folding warning lines intermediate the first and second flanges, with a grip attached to the second flange exterior to the spool to facilitate turning of the spool, with a ring attached to the second flange exterior to the spool and adapted to affix the flaccid member of the folding warning lines to the spool to facilitate tangle free winding onto the spool, and with the handlebar comprising a first handle attached to the back plate of the top member proximate the first end and a second handle attached to the back plate of the top member proximate the second end, with the first handle and the second handle inclining in an upward direction exterior to the framework.